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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,267	06/06/2007	Alan Robert Rae	P30408US01/18770.005	6466
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PATEL, DEVANG R				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/588,267

Applicant(s)

RAE ET AL.

Examiner

DEVANG PATEL

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date 8/5/06, 6/6/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1 and 9-10** are rejected under 35 U.S.C. 102(b) as being anticipated by Kizling et al. (WO 97/09114, referring as WO'114).

- a. **Regarding claim 1**, WO'114 discloses the use of oxidation catalysts for purification of effluents from diesel engines, wherein ethanol is used as fuel (i.e. ethanol/diesel fuel blend), and thus reduce or eliminate harmful substances (pg. 1, line 22 thru pg. 2, line 21). The catalyst of WO'114 includes platinum group metal dispersed on a monolith metal oxide (pg. 6), which is substantially the same as the claimed catalyst. Accordingly, such diesel oxidation catalyst is intrinsically expected to reduce the particulate matter (PM) content by at least 25%, as compared to the PM resulting from the combustion of diesel fuel alone.
- b. **As to claim 9**, WO'114 discloses the catalyst comprising a loading of platinum metal on a monolith carrier (pg. 5). In accordance with broadest

reasonable interpretation, "molecular sieve" is any porous structure capable of separating molecules based on the size and thus, the monolith carrier of WO'114 is a specific type of molecular sieve.

c. **As to claim 10**, WO'114 discloses substantially the same catalyst as explained in claim 1 above and therefore, such oxidation catalyst is intrinsically expected to reduce PM content by at least 40% in exhaust emissions from ethanol/diesel fuel blend.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kizling et al. (WO 97/09114, "WO'114") in view of Roeder et al. (EP 1227143 A, referring as EP'143).

d. **Regarding claim 1**, WO'114 discloses the use of oxidation catalysts for purification of effluents from diesel engines, wherein ethanol is used as fuel (i.e. ethanol/diesel fuel blend), and thus reduce or eliminate harmful substances (pg. 1, line 22 thru pg. 2, line 21). The catalyst of WO'114 includes platinum group metal dispersed on a refractory metal oxide (pg. 6), which is substantially the same as the claimed catalyst. Accordingly, such diesel oxidation catalyst is

intrinsically expected to reduce the particulate matter (PM) content by at least 25%, as compared to the PM resulting from the combustion of diesel fuel alone. In any event, it is well-known in the art that the use of ethanol blended fuel reduces PM content and also achieves desirable characteristics. EP'143 (drawn to fuel additives for combustion engine fuels) discloses ethanol/diesel fuel blend comprising an oleic alkanolamide and an alkoxyated oleic acid [¶ 8-10, 16-21]. EP'143 discloses that blending fuel grade ethanol imparts desirable combustion characteristics to the overall fuel composition such as improved fuel stability, lower smoke and PM, lower CO and NOx emissions, improved anti-knock and anti-freeze characteristics [¶ 25]. EP'143 further discloses that ethanol/fuel blend results in significant reductions in exhaust emissions of gases CO, CO₂, NOx, and PM [¶ 54-55]. EP'143 discloses reduction of the PM content by at least 25% as compared to base diesels without additives [¶ Tables I-III]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize ethanol/diesel fuel blend of EP'143 in the method of WO'114 because doing so imparts desirable combustion characteristics to the overall fuel composition such as improved fuel stability, lower smoke and PM, lower CO and NOx emissions, improved anti-knock and anti-freeze characteristics [EP'143- ¶ 25].

e. **As to claims 2-5**, EP'143 discloses the diesel fuel comprising 92.3% diesel, 7.7% ethanol and additives including oleic alkanolamide and alkoxyated oleic acid [¶ 54-60].

- f. **As to claim 6**, EP'143 discloses fuel grade ethanol derived from petrochemical or agricultural sources [¶ 22-23].
- g. **As to claim 7**, EP'143 discloses the ethanol/diesel fuel blend being a clear, homogeneous solution, stabilized by non-ionic surfactants [¶ 44, 50].
- h. **As to claim 8**, EP'143 discloses the surfactant stabilizer being present from about 0.1% to 3% by volume [examples; fig. 1].
- i. **As to claim 9**, WO'114 discloses the catalyst comprising a loading of platinum metal on a monolith carrier (pg. 5). In accordance with broadest reasonable interpretation, "molecular sieve" is any porous structure capable of separating molecules based on their size and thus, the monolith carrier of WO'114 is a specific type of molecular sieve.
- j. **As to claim 10**, WO'114 in view of EP'143 discloses contacting the exhaust gas with diesel oxidation catalyst and reducing the PM content by at least 40% [EP '143- Table III].

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 8/5/08, 6/6/07 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Conclusion

Claims 1-10 are rejected.

The rejections above rely on the references for all the teachings expressed in the text of the references and/or one of ordinary skill in the art would have reasonably understood from the texts. Only specific portions of the texts have been pointed out to emphasize certain aspects of the prior art, however, each reference as a whole should be reviewed in responding to the rejection, since other sections of the same reference and/or various combinations of the cited references may be relied on in future rejections in view of amendments.

Applicant is reminded to specifically point out the support for any amendments made to the disclosure. See 37 C.F.R. 1.121; 37 C.F.R. Part 41.37; and MPEP 714.02.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEVANG PATEL whose telephone number is (571)270-3636. The examiner can normally be reached on Monday thru Thursday, 8:00 am to 5:30 pm, EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jessica Ward can be reached on 571-272-1223. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devang Patel/
Examiner, Art Unit 1793

/Kiley Stoner/

Primary Examiner, Art Unit 1793